

Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

1. (Currently Amended) A multiplexing and transmission apparatus which receives low-speed frame signals from a plurality of channels in parallel and outputs a high-speed serial signal, said multiplexing and transmission apparatus comprising:

a control pulses generating circuit which generates control pulses each of which corresponds to one of said channels, wherein ~~phases~~ of said control pulses ~~are~~ have different timing for each channel;

channel-frame generating circuits, connected to said control pulses generating circuit, each of which receives said low-speed frame signal and outputs said low-speed frame signal in synchronization with said control pulse so that an output timing of said low-speed frame signal is shifted with respect to an output timing of other low-speed frame signals so that a receiving side apparatus can recognize a channel number of said low-speed frame signal; and

a multiplexing circuit, connected to said channel-frame generating circuits, which multiplexes said low-speed frame signals into said high-speed serial signal and outputs said high-speed serial signal.

2. (Currently Amended) A multiplexing and transmission apparatus which receives a high-speed serial signal, demultiplexes said high-speed serial signal into low-speed frame signals and outputs said low-speed frame signals to a plurality of channels in parallel, said multiplexing and transmission apparatus comprising:

a demultiplexer which demultiplexes said high-speed serial signal into said low-speed frame signals;

channel-frame synchronization circuits, connected to said demultiplexer, each of which receives said low-speed frame signal, generates a frame pulse corresponding to said low-speed frame signal, and outputs said low-speed frame signal;

a switching circuit, connected to said channel-frame synchronization circuits, which receives said low-speed frame signals and sends each of said low-speed frame signals to an appropriate port of said channel; and